

**ENHANCING SPEECH INTELLIGIBILITY USING VARIABLE-RATE
TIME-SCALE MODIFICATION****Abstract of the Invention**

The method and preprocessor enhances the intelligibility of narrowband speech without essentially lengthening the overall time duration of the signal. Both spectral enhancements and variable-rate time-scaling procedures are implemented to improve the salience of initial consonants, particularly the perceptually important formant transitions. Emphasis is transferred from the dominating vowel to the preceding consonant through adaptation of the phoneme timing structure. In a further embodiment, the technique is applied as a preprocessor to a speech coder.